

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

Inventor : LATTNER et al.  
Appln. No. : Not Yet Assigned (DIV. of U.S. Appln. No. 09/817,434)  
Conf. No.: : Unknown  
Filed: : July 18, 2003  
Title: : INTRAORAL ELECTROMUSCULAR STIMULATION DEVICE  
AND METHOD  
Group Art Unit : Unknown  
Examiner : Unknown  
Docket No. : 98-15 D1

\* \* \* \* \*

July 18, 2003

### INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of Patents  
and Trademarks  
Alexandria, VA 22313-1450

Sir:

Attached is a Form PTO-1449 listing the enclosed documents.


This Information Disclosure Statement is being filed within 3 months of the filing date of this application.

Any copy of the items listed on the enclosed Form PTO-1449 that is not enclosed with this Information Disclosure Statement was previously cited by or submitted to the Patent and Trademark Office in Application No. 09/817,434, filed March 26, 2001, of which the present

#### **CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.10**

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on July 18, 2003 with sufficient postage as "Express Mail Post Office to Addressee" in an envelope addressed to:

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Michael W. Haas, Reg. No. 35,174

LATTNER et al. -- Appln. No.: Not Yet Assigned  
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application relies upon for an earlier filing dated under 35 U.S.C. § 120. Therefore, no such copy is required to be submitted by the applicant with this Information Disclosure Statement per 37 C.F.R. § 1.98(d).

This Information Disclosure Statement is intended to be in full compliance with the rules, but should the Examiner find any part of its required content to have been omitted, prompt notice to that effect is earnestly solicited, along with additional time under Rule 97(f), to enable Applicant to comply fully.

Consideration of the foregoing and enclosures plus the return of a copy of the herewith Form PTO-1449 with the Examiner's initials in the left column per M.P.E.P. § 609 along with an early action on the merits of this application are earnestly solicited.

Respectfully submitted,

By Michael W. Haas

Michael W. Haas

Reg. No.: 35,174

Tel. No.: (724) 387-5026

Fax No.: (724) 387-5021

RESPIRONICS INC.  
1010 Murry Ridge Lane  
Murrysville, PA 15668-8525  
1-800-638-8208

<b>PTO/SB/08 Form (RESPIRONICS Version)</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				<b>Application No.</b>	Not Yet Assigned
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U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee	Publication Date MM-DD-YYYY	Relevant Pages, Columns, Lines
		Number	Kind Code			
	A	3,480,010		Crossley	11/1969	
	B	4,153,060		Korostoff et al.	05/1979	
	C	4,334,542		Takinishi et al.	06/1982	
	D	4,365,636		Barker	12/1982	
	E	4,433,693		Hochstein	02/1984	
	F	4,519,400		Brenman et al.	05/1985	
	G	4,580,575		Birnbaum et al.	04/1986	
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	J	4,715,367		Crossley	12/1987	
	K	4,788,533		Mequignon	11/1988	
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	N	5,123,425		Shannon, Jr. et al.	06/1992	
	O	5,133,354		Kallok	07/1992	
	P	5,146,918		Kallok et al.	09/1992	

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		Office	Number	Kind Code				
	Q	EP	EP 0 494 787 B1		Kallok et al.	09/1992		
	R	EP	EP 0 597 891 B1		Kallok	03/1992		
	S	EP	EP 0 702 977 A2		Testerman	09/1995		
	T	SU	SU 1424-792-A		Unknown	05/1986		
	U	SU	SU 1553140 A1		Unknown	03/1990		
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	A	5,158,080		Kallok	10/1992	
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	A	5,540,732		Testerman	06/1996	
	B	5,540,733		Testerman et al.	07/1996	
	C	5,546,952		Erickson	08/1996	
	D	5,549,655		Erickson	08/1996	
	E	5,591,216		Testerman et al.	01/1997	
	F	5,678,535		DiMarco	10/1997	
	G	5,792,040		Koeneman et al.	08/1998	
	H	5,792,067		Karell	08/1998	
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	Y	Giuseppe Sant' Ambrogio et al., "Sensory Information from the Upper Airway: Role in the Control of Breathing," Respiration Physiology, Vol., 102, 1995, pages 1 - 16	
	Z	American Review of Respiratory Disease, "Arousal: The Forgotten Response to Respiratory Stimuli," Vol.118, 1978, pages 807 - 809	
	AA	American Sleep Disorders Association Task Force, "The Chicago Criteria for Measurements, Definitions, and Severity Ratings of Sleep Related Breathing Disorders in Adults," 1997, pages S1 - S19	
	BB	Michael J. Decker et al., "Functional Electrical Stimulation and Respiration During Sleep," J. Appl. Physiol., 1993, pages 1053 - 1061	
	CC	Lee C. Edmonds et al., "The Effects of Transcutaneous Electrical Stimulation During Wakefulness and Sleep in Patients with Obstructive Sleep Apnea," Am Rev Respir Dis., 1992, pages 1030 - 1036	
	DD	David W. Eisele, MD et al., "Direct Hypoglossal Nerve Stimulation in Obstructive Sleep Apnea," Arch Otolaryngol Head Neck Surg., Vol. 123, 1997, pages 57 - 61	
	EE	David W. Eisele, MD et al. "The Effects of Selective Nerve Stimulation on Upper Airway Airflow Mechanics," Arch Otolaryngol Head Neck Surg., Vol. 121, 1995, pages 1361 - 1364	
	FF	David W. Fairbanks, MD et al., "Neurostimulation for Obstructive Sleep Apnea: Investigations," ENT Journal, Vol. 72, No. 1, 1993, pages 52 - 57	
	GG	Iain C. Gleadhill et al., "Upper Airway Collapsibility in Snorers and in Patients with Obstructive Hypopnea and Apnea," Am Rev Respir. Dis., Vol. 143, 1991, pages, 1300 - 1303	
	HH	George S. Goding, Jr., MD et al., "Relief of Upper Airway Obstruction with Hypoglossal Nerve Stimulation in the Canine," Laryngoscope, Vol. 108, 1998, pages 102 - 103	
	II	Christian Guilleminault, MD et al., "The Effect of Electrical Stimulation on Obstructive Sleep Apnea Syndrome," Chest, Vol. 107, 1995, pages 67 - 73	
	JJ	Joan C. Hendricks et al., "Upper Airway Dilating Muscle Hyperactivity During Non-Rapid Eye Movement Sleep in English Bulldogs," Am Rev Respir Dis, Vol. 148, 1993, pages 185 - 194	

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	Y	Wataru Hida et al., "Hypoglossal Nerve Stimulation Affects the Pressure-Volume Behavior of the Upper Airway," American Journal of Respiratory and Critical Care Medicine, Vol. 151, 1995, pages 455 - 460	
	Z	Wataru Hida et al., "Submental Stimulation and Supraglottic Resistance During Mouth Breathing," Respiration Physiology, Vol. 101, 1995, pages 79 - 85	
	AA	B. Hillarp et al., "Videoradiography at Submental Electrical Stimulation During Apnea in Obstructive Sleep Apnea Syndrome," Acta Radiologica, Vol. 32, 1991, pages 256 - 259	
	BB	R.L. Horner et al., "Sites and Sizes of Fat Deposits Around the Pharynx in Obese Patients with Obstructive Sleep Apnoea and Weight Matched Controls," Eur Respir J., Vol. 2, 1989, pages 613 - 622	
	CC	Faiq G. Issa et al., "Genioglossus and Breathing Responses to Airway Occlusion: Effect of Sleep and Route of Occlusion," J. Appl. Physio., Vol. 64 No. 2, 1988, pages 543 - 549	
	DD	R. John Kimoff et al., "Mechanisms of Apnea Termination in Obstructive Sleep Apnea," American Journal of Respiratory and Critical Care Medicine, Vol. 149, 1994, pages 707 - 714	
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	FF	Erik van Lunteren, M.D. et al., "The Muscles of the Upper Airways," Clinics in Chest Medicine, Vol. 7, No. 2, 1986, pages 171 - 188	
	GG	William S. Mezzanotte et al., "Waking Genioglossal Electromyogram in Sleep Apnea Patients Versus Normal Controls (a Neuromuscular Compensatory Mechanism)," The Journal of Clinical Investigation, Inc., Vol. 89, 1992, pages 1571 - 1579	
	HH	Miki Hiroshi et al., "A New Treatment for Obstructive Sleep Apnea Syndrome by Electrical Stimulation of Submental Region," Tohoku J. Exp. Med., Vol. 154 No. 1, 1988, pages 91 - 92	
	II	Miki Hiroshi et al., "Effects of Submental Electrical Stimulation During Sleep on Upper Airway Patency in Patients with Obstructive Sleep Apnea," Am Rev Respir Dis., Vol. 140, 1989, 1285 - 1289	
	JJ	D.L. Morrison et al., "Pharyngeal Narrowing and Closing Pressures in Patients with Obstructive Sleep Apnea," Am Rev Respir Dis., Vol. 148, 1993, pages 606 - 611	

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	Y	H. Bishara et al., "Electrically-Activated Dilator Muscles Reduce Pharyngeal Resistance in Anaesthetized Dogs with Upper Airway Obstruction," Eur Respir J., Vol. 8, 1995, pages 1537 - 1542	
	Z	Odeh Majed et al., "Dependency of Upper Airway Patency on Head Position: The Effect of Muscle Contraction," Respiration Physiology, Vol. 100, 1995, pages 239 - 244	
	AA	A. Oliven et al., "Improved Upper Airway Patency Elicited by Electrical Stimulation of the Hypoglossus Nerves," Respiration, Vol. 63, 1996, pages 213 - 216	
	BB	Onal Ergun et al., "Periodic Breathing and the Pathogenesis of Occlusive Sleep Apneas," Am Rev Respir Dis., Vol. 126, 1982, pages 676 - 680	
	CC	Anthony T. Scardella et al., "Strength and Endurance Characteristics of the Normal Human Genioglossus," Am Rev Respir Dis., Vol. 148, 1993, pages 179 - 184	
	DD	R.P. Schnall, et al., "Dilatory Effects of Upper Airway Muscle Contraction Induced by Electrical Stimulation in Awake Humans," J. Appl. Physiol., Vol. 78 No. 5, 1995, pages 1950 - 1956	
	EE	Alan R. Schwartz et al., "Electrical Stimulation of the Lingual Musculature in Obstructive Sleep Apnea," J. Appl. Physiol., Vol. 81 No. 2, 1996, pages 643 - 652	
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	GG	Richard S. Schwartz, DDS et al., "Effects of Electrical Stimulation to the Soft Palate on Snoring and Obstructive Sleep Apnea," Dec. 20, 1995, pages 1 - 17	
	HH	Karen Eller Shelton et al., "Paryngeal Fat in Obstructive Sleep Apnea," Am Rev Respir Dis., Vol. 148, 1993, pages 462 - 466	
	II	John W. Shepard, Jr. et al., "Localization of Upper Airway Collapse During Sleep in Patients with Obstructive Sleep Apnea," Am Rev Respir Dis., Vol. 141, 1990, pages 1350 - 1355	
	JJ	Douglas J. Tangel et al., "Influence of Sleep on Tensor Palatini EMG and Upper Airway Resistance in Normal Men," J. Appl. Physiol., Vol. 70 No. 6, 1991, pages 2574 - 2581	

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	Y	Zoltan Tomori et al., "Reflex Reversal of Apnoeic Episodes by Electrical Stimulation of Upper Airway in Cats," Respiration Physiology, Vol. 102, 1995, pages 175 - 185	
	Z	John R. Wheatley et al., "Influence of Sleep on Genioglossus Muscle Activation by Negative Pressure in Normal Men," Am Rev Respir Dis., Vol. 148, 1993, 597 - 605	
	AA	John R. Wheatley et al., "The Influence of Sleep on Pharyngeal Reflexes," American Sleep Disorders Association and Sleep Research Society, Vol. 16, 1993, pages S87 - S89	
	BB	Laurel Wiegand et al., "Collapsibility of the Human Upper Airway During Normal Sleep," J. Appl. Physiol., Vol. 66 No. 4, 1989, pages 1800 - 1808	
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